

2 Socioeconomic Characteristics and Forecasts

The purpose of this element is to examine existing development trends and policies affecting land use, growth and development within the limits of the Southwest Area Transportation Study (SWATS) and prepare future year forecasts as inputs to the area travel demand computer model. The model is used to estimate existing and future trip generation and traffic volumes for area roadways and subsequently to evaluate future capacity improvements to the transportation system. Additionally this element identifies environmental justice and Title VI named population groups within the study area for later consideration in the evaluation of transportation improvement options.

This chapter was developed as a Working Paper (WP) and contains data and information that is continuously updated, some of which may have changed or may have been superseded by the final Regional Transportation Plan (RTP). Information was current at the time of initial WP publication.

2.1 Methodology for Determining Future Year Forecasts

This section addresses existing and future conditions that are closely associated with travel demand and trip generation characteristics of the southwest study area. The demographic variables examined within each traffic analysis zone (TAZ) and throughout the study area include:

- Resident Population in Households;
- Resident Population in Group Quarters;
- Transient Population;
- Seasonal Population;
- Resident Households (Occupied Dwelling Units);
- Group Quarter Households;
- Transient Households;
- Seasonal Households;
- Other Employment;
- Public Employment;
- Retail Employment;
- Office Employment;
- Industrial Employment;
- Households with <\$15K Income;
- Households with \$15 - \$24, 999K Income;
- Households with \$25 – \$34, 999K Income;
- Households with \$35 - \$49,999K Income;

- Households with \$50,000K + Income;
- Total Area (square miles);
- Office Area (square miles);
- Post High School Enrollment;
- Retirement Zone Flag;
- Sky Harbor Enplanements;
- Dwelling Units < 10 Years Old;
- Dwelling Units 10-19 Years Old;
- Dwelling Units 20-29 Years Old;
- Dwelling Units 30 + Years Old;
- Single Family Households; and,
- Multi Family Households.

Estimates for these demographic variables were developed at the TAZ level for the Year 2000 and for two horizon years, 2020 and 2030. The southwest study area includes 302 TAZs, 112 of which overlap with the northwest study area boundary, and includes the communities of Goodyear, Tolleson, Litchfield Park, Gila Bend, Avondale and a portion of Buckeye, Phoenix and Glendale as well unincorporated portions of Maricopa County. Census tract level data from 1990 and 2000 were utilized in the estimation process and are presented in Appendix II.

2.2 Year 2000 Regional Trip Generation File

A complete trip generation file for Base Year 2000 was provided by the Maricopa Association of Governments (MAG). This file included the planning variables for each TAZ, which was based on census information and other data collected by MAG to be consistent with the 2000 Census. This file was reviewed as part of this effort and notations were made where adjustments may be necessary.

2.3 Alternative Scenarios

As displayed in Tables 2-1 and 2-2, a scenario of population and employment forecasts was developed for the RTP. Although this scenario is currently in draft form and is subject to change, it is the best available set of projections. As shown population and employment in the Southwest Study Area is expected to equal, in the Year 2030, approximately 1.4 million and 800,000 respectively. Figures 2-1 and 2-2 graphically display total population and employment for the base year and each alternative scenario. Figure 2-3 and 2-4 show the population and employment densities in each of the census tracts in the study area for the base year and each alternative scenario.

Table 2-1*
Total Population, Alternative Scenarios

MPA	Total Population Year 2000	Total Population Alternative Scenario 1 Year 2020	Total Population Alternative Scenario 2 Year 2030
County (unincorporated areas)	7,407	20,244	39,696
Buckeye**	16,513	149,578	377,438
Avondale	37,827	103,457	114,374
Gila Bend	2,264	6,004	17,979
Glendale**	2,394	5,380	5,381
Litchfield Park	3,831	14,095	14,573
Tolleson	4,998	6,314	6,338
Goodyear	21,246	162,623	334,652
Phoenix**	289,503	464,403	524,347
Total	385,983	932,098	1,434,778

*Data are continuously updated and may have changed during the RTP process.

**Reflects population only within the southwest study area boundaries. Includes TAZs 2042 and 2044.

Table 2-2*
Total Employment, Alternative Scenarios

MPA	Total Employment Year 2000	Total Employment Alternative Scenario 1 Year 2020	Total Employment Alternative Scenario 2 Year 2030
County (unincorporated)	6,548	13,322	20,652
Buckeye**	7,006	69,151	172,752
Avondale	9,041	54,644	64,229
Gila Bend	1,191	4,424	12,165
Glendale**	10,807	16,694	20,520
Litchfield Park	1,178	5,059	4,703
Tolleson	12,777	24,753	31,973
Goodyear	13,895	115,434	185,722
Phoenix**	119,088	233,287	309,328
Total	181,531	536,768	822,044

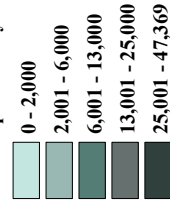
*Data are continuously updated and may have changed during the RTP process.

**Reflects employment only within the southwest study area boundaries. Includes TAZs 2042 and 2044.

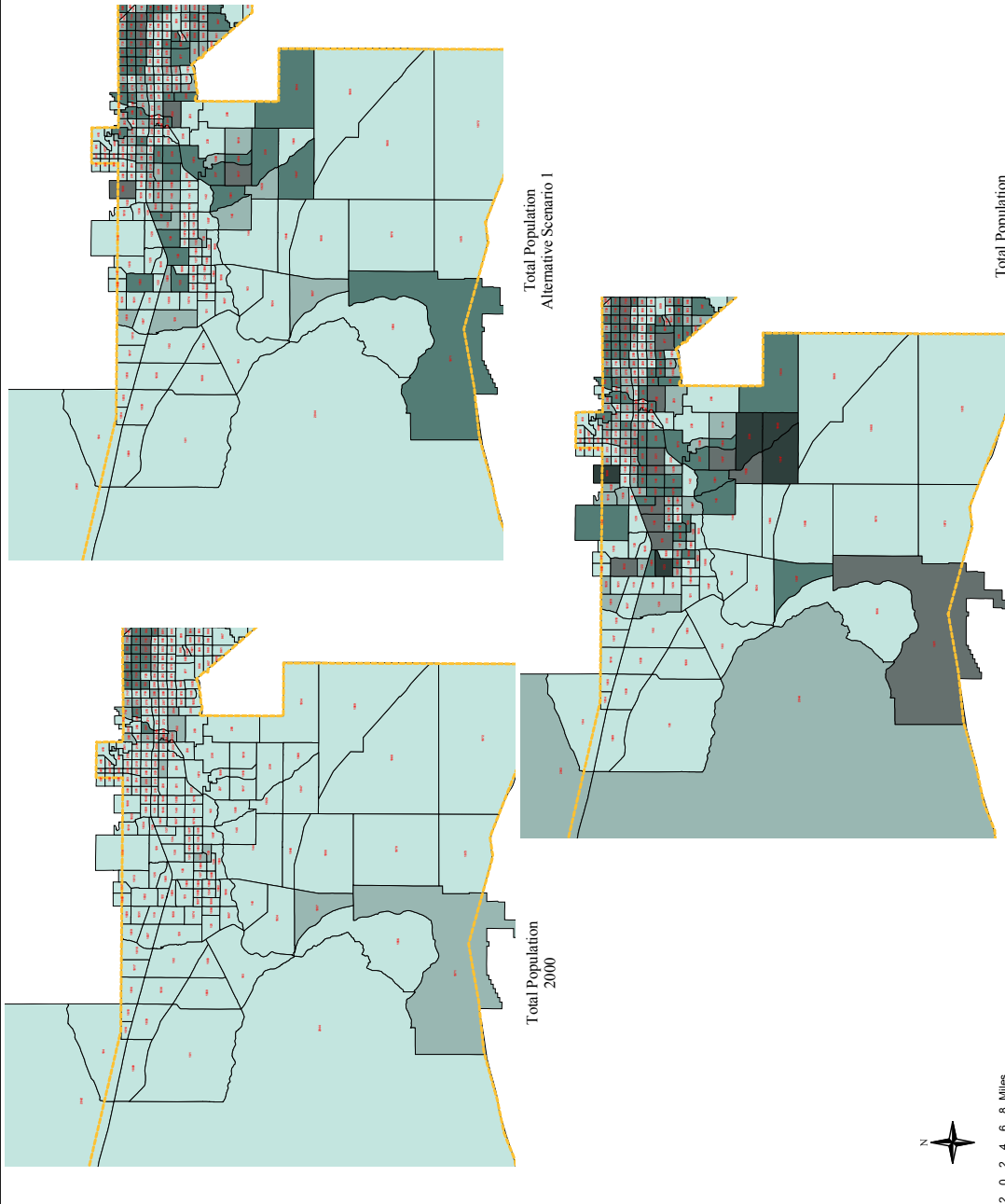
**Figure 2-1
Total Population
Alternative Scenarios**

 MAG Southwest Study
Area Boundary

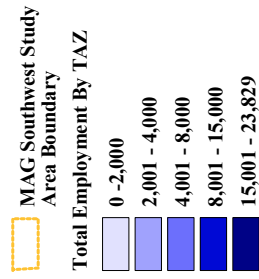
Total Population By TAZ



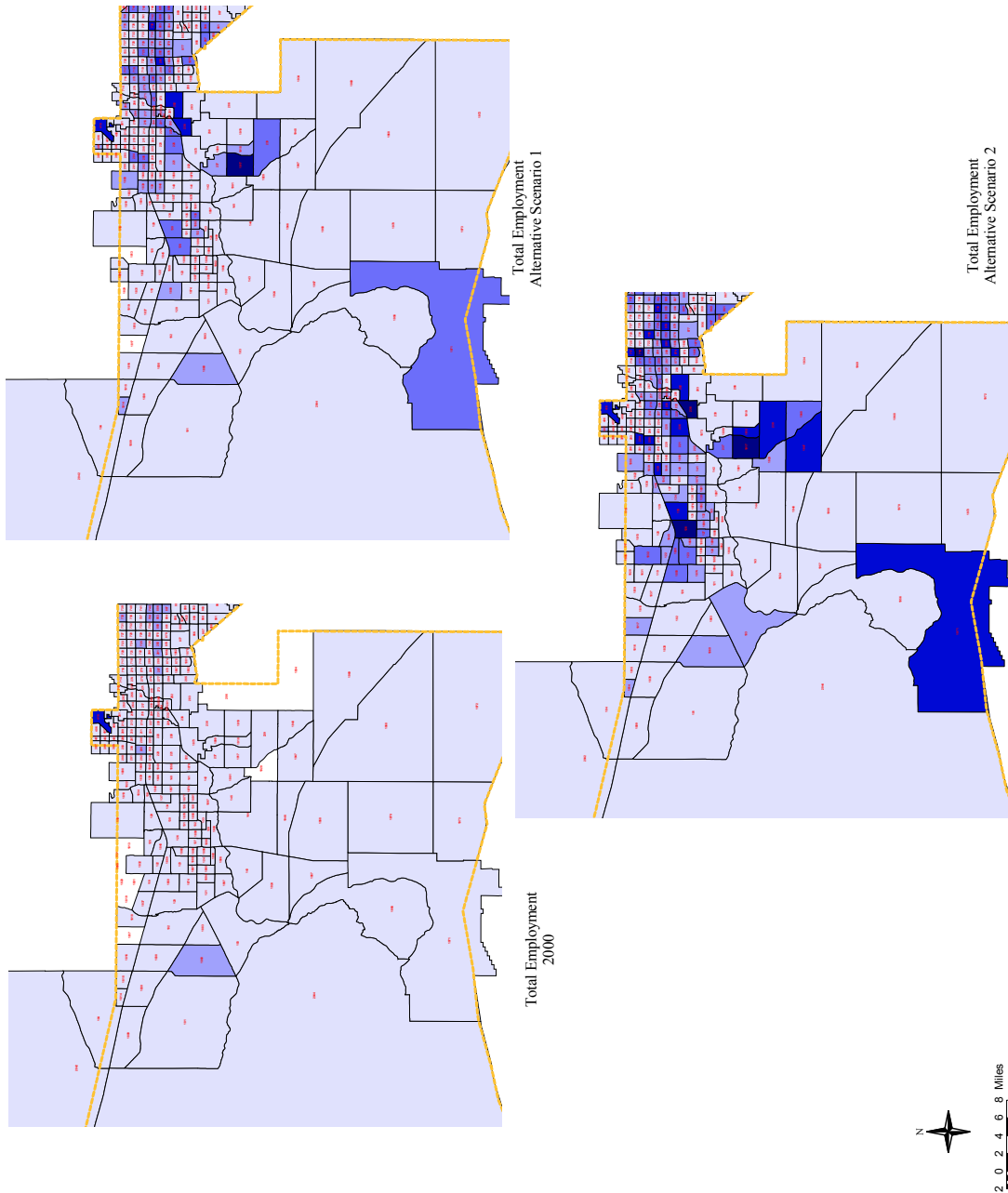
Source: Draft 2 Interim data, which
are subject to change in the RTP.



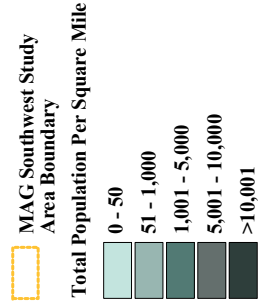
**Figure 2-2
Total Employment
Alternative Scenarios**



Source: Draft 2 Interim data, which are subject to change in the RTP.



**Figure 2-3
Total Population Per
Square Mile**



Source: Draft 2 Interim data, which
are subject to change in the RTP.

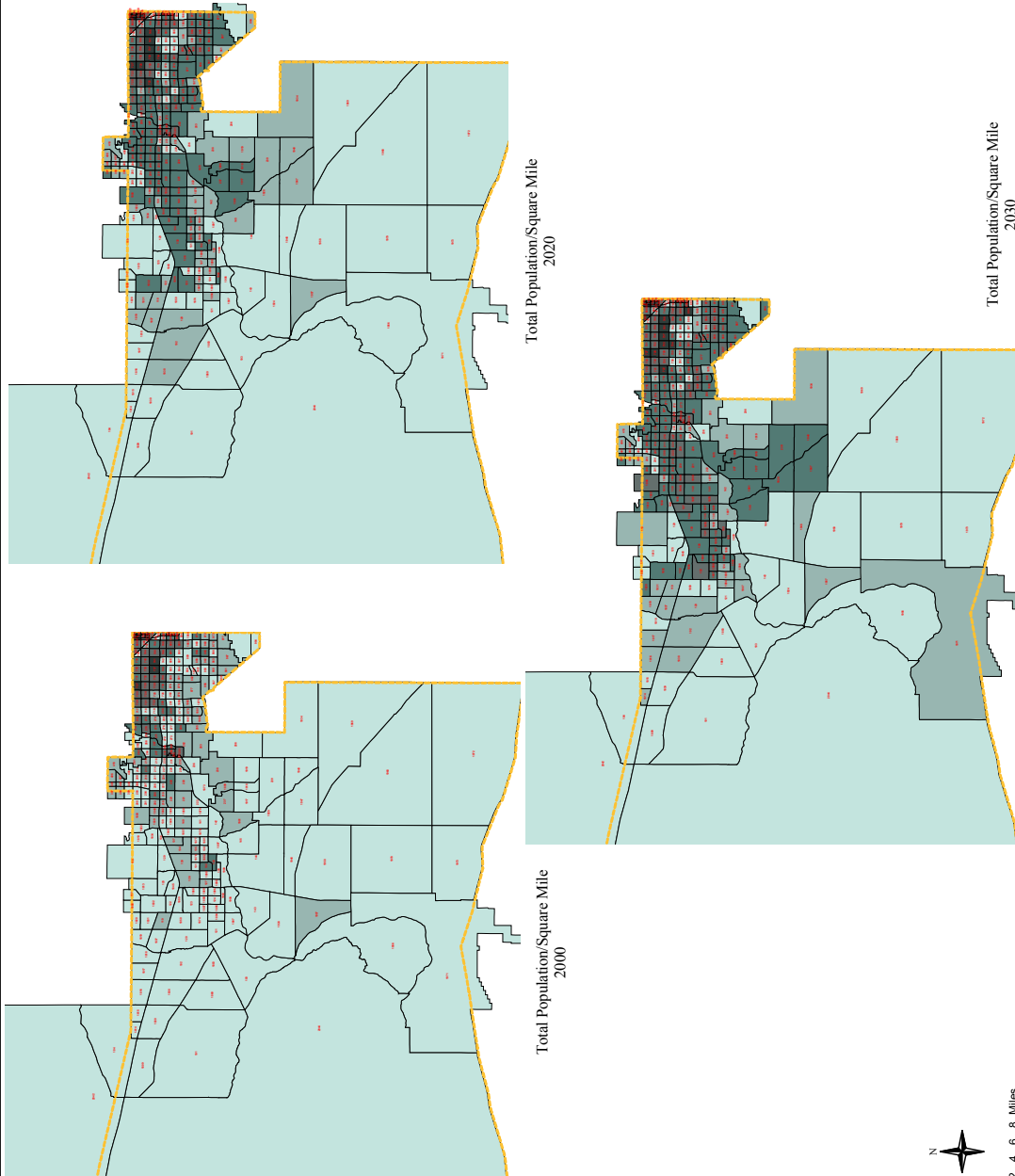
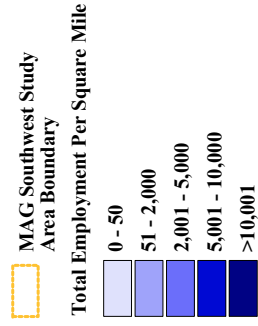
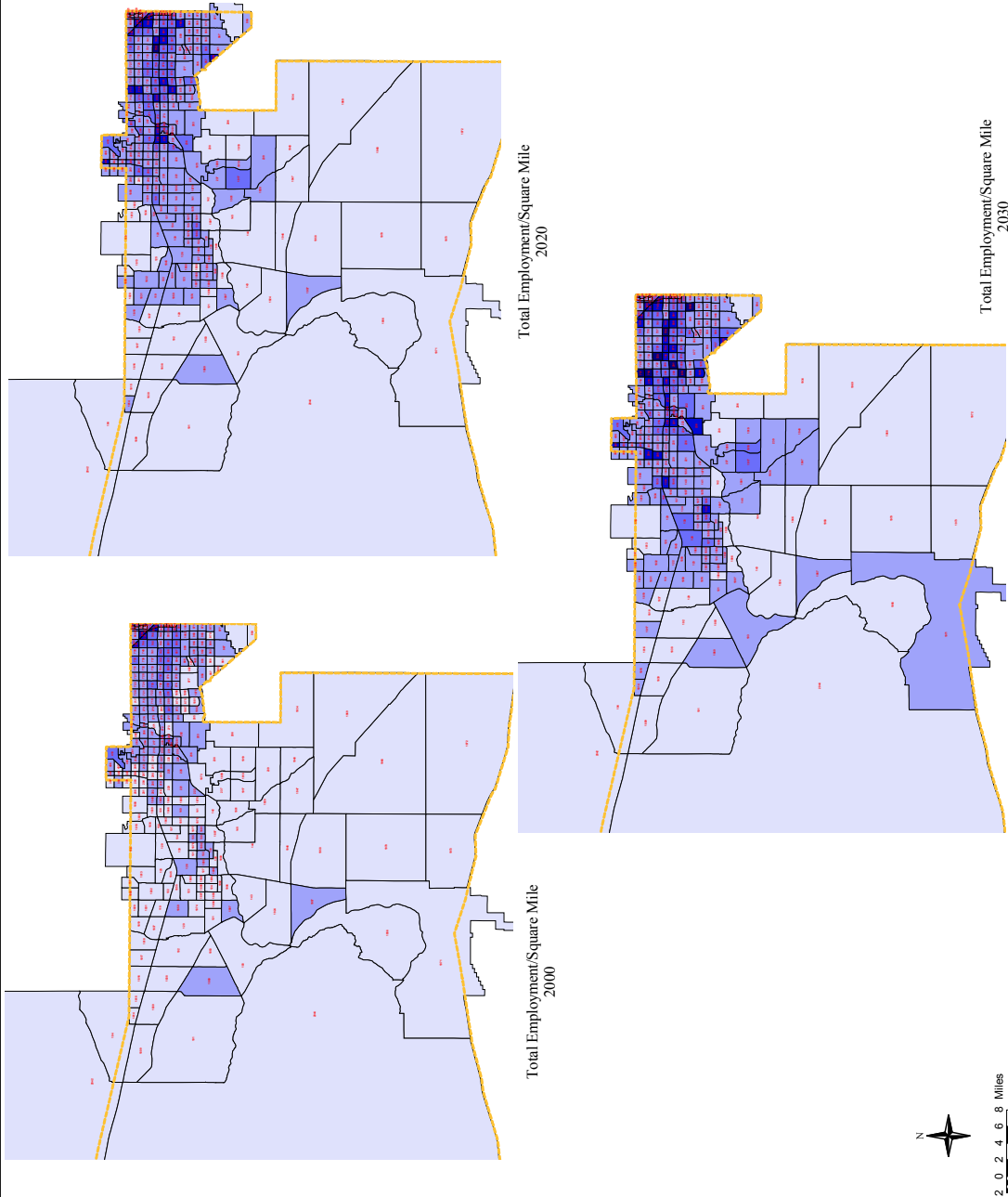


Figure 2-4
**Total Employment Per
Square Mile**
Alternative Scenario



Source: Draft 2 Interim data, which
are subject to change in the RTP.



2.4 Summary of General Plans and Land Use Assumptions

This section summarizes local government plans, development trends and policies affecting land use, growth and development in the southwest study area. Policies related to land use, annexation, available infrastructure and growth influence the pattern and timing of land development and as a result affect population and employment forecasts. This information was obtained from each community's general plan and was taken into account in forecasting socioeconomic variables, including population and employment to the TAZ level. Consistency between the general plans and scenarios was reviewed and adjustments were made to the scenarios as necessary. The land use plans were also used in determining build out and the extent and type of future development in the local communities.

This section also documents any revisions to the general plans and summarizes land use observations and assumptions for each MPA based on meetings held with local communities and input received from them on existing and future development trends. These land use policies and development trends will serve as important considerations in identifying future regional transportation needs and in developing the Southwest Area Transportation Study. General plans were obtained for the communities of Avondale, Buckeye, Goodyear, Litchfield Park, Gila Bend and Tolleson. Plans prepared by the Phoenix Planning Department for the Villages of Estrella and Laveen are also summarized.

Some of the plans and land use assumptions may have been updated since publication of this WP.

2.5 Avondale General Plan

The City of Avondale is located in the southwest corner of the Phoenix Metropolitan Area. The city is bounded by Goodyear to the west, Litchfield Park to the north and Tolleson and Phoenix to the east. I-10 traverses the northern portion of the City and the Gila River bisects the community from east to west. Major land uses in the City include the Phoenix International Raceway and Estrella Mountain Regional Park located south of the Gila River. Over the past 10 years, Avondale has captured a significant amount of the residential growth that has occurred in the Phoenix Metropolitan Area, as its population has increased from 16,169 persons in 1990 to 35,883 persons in 2000, an increase of 122 percent. I-10, which was completed a decade ago, has provided improved access in the region and has resulted in increased commercial activity along this corridor.

2.5.1 Land Use

There are numerous policies and development trends affecting land use and growth in Avondale as identified in the City's General Plan (Final Draft, January 15, 2002). With increased growth and development over the past decade the City is changing from an agrarian to a suburban community. Avondale's general plan has identified the need for additional residential and commercial areas to

accommodate future growth. This is reflected in the land use plan, which identifies increased amounts of land for residential development, employment and retail uses. Medium density residential is the largest land use category, representing 40 percent of total land uses in the 2001 general plan compared to agriculture, which was the largest land use category in the 1990 general plan.

In order to accommodate future growth the plan identified the following policies and objectives related to future development in the community. These policies will affect the development pattern in the community and influence future population and employment potential.

- Identify additional land for multi-family housing and ensure that multi-family lots as a percent of total residential development in Avondale is comparable to the percentage of multi family as a percent of total development countywide.
- Require that at least 25 percent of all housing in the south core be at a net density of 10 dwelling units per acre or more.
- Set aside large areas of low-density residential property to encourage high-end development.
- Develop a Specific Plan for the Avondale Planning Area south of the Estrella Mountains by the year 2005 to accommodate future residential housing demand.
- Promote infill development. The plan identifies commercial and residential commercial districts.
- Reserve adequate land to accommodate commercial and future light industrial development, along freeway corridors, to meet a job to population ratio of one job for every two residents

2.5.2 Public Facilities

With regards to facilities and services the city will continue to evaluate its services and facilities to meet the demand for continued growth and development. Policies related to community facilities and services include:

- Require the City and developers to grow within the capacity of available water supplies through evaluating new development needs against water availability and wastewater treatment plant capacity.
- Provide adequate public services and facilities concurrent with new development through requiring new development to provide its fair share of required services and infrastructure.

2.5.3 Land Use Assumptions and Observations

- Areas north of I-10 are currently actively developing, estimated to be approaching full build out by 2020.
- Land adjacent to I-10, largely non residential development, from 99th Avenue to 115th Avenue estimated to be at full build out by 2020.
- West of the Agua Fria River between Van Buren and Lower Buckeye, estimated to be near build out by 2020.
- Area from Van Buren to Lower Buckeye, east of the Agua Fria River, estimated near full build out by 2010.
- Area between lower Buckeye and Broadway being provided utility infrastructure within the next three years, estimated to be at full build out by 2020.

- Area from Broadway south to Gila River is constrained with floodplain and other natural features. This area is estimated to be in the 50 to 80 percent build out by 2020.
- Area to the south of the Estrella Mount Regional Park is anticipated to develop largely beyond the year 2020 due to infrastructure constraints.
- Parcel at the southeast corner of 115th Avenue and Thomas, likely to transition from nonresidential to residential.
- Parcel on the north side of Van Buren 1 ½ mile west of 115th Avenue is expected to transition from moderate/high density residential to mixed use/employment.

2.6 Tolleson General Plan

Tolleson is located on the western fringe of Phoenix along I-10, east of Avondale. The city comprises 6 square miles and is bounded on the east, north and south by the City of Phoenix. Avondale abuts Tolleson on the west. The city has experienced moderate population growth over the past decade as its population grew from 4,434 persons in 1990 to 4,974 persons in 2000, an increase of 12 percent. The majority of the City is located between two transportation corridors I-10 and the Southern Pacific Railroad. Although the community is surrounded by urban growth, it has managed to combat sprawl and maintain its compact, neighborhood oriented land use form. As with many communities surrounding the Phoenix Metropolitan area, increasing urbanization of the region is expected to impact Tolleson.

As identified in the community's general plan, through circulation and land use patterns the community wishes to enhance economic development, improve its community character, and maintain its compact, pedestrian friendly land use pattern. The community wishes to promote a compact urban form with schools, parks, recreation facilities and government offices within an approximate one-half square mile. New residential development will be located close to existing municipal services, schools and recreational facilities. Commercial businesses, which provide neighborhood needs will be located within the central business core, while tourist related commercial and industrial employment centers will be located along major transportation corridors (I-10). Tolleson is anticipating employment growth through expansion of businesses and industries and through increased tourism in the City.

2.6.1 Land Use

A key objective of the land use element of the plan is preserving Tolleson's compact land use pattern and small town atmosphere. Goals and strategies identified in the general plan that are related to land use and the pattern of development in the community include:

- Encourage the development of residential areas in close proximity to neighborhood commercial businesses;
- Encourage a mix of medium and higher residential densities near schools, parks and the business core;
- Use zoning ordinance to encourage the development of close neighborhoods;
- Encourage redevelopment, infill and expansion of retail and businesses;

- Encourage industrial warehouse development near the southern Pacific Railway corridor;
- More recreation and entertainment centers for visitors;
- Encourage businesses to accommodate residential community needs;
- Continue to encourage development of major industries in the Southern Pacific Railroad Corridor; and,
- Encourage the development of tourist attractions/facilities including a golf course, hotels, and restaurant facilities.

2.6.2 Community Facilities

With regards to community facilities the city has adequate facilities to meet current residential, commercial and industrial growth. They also have adequate staff and facilities to accommodate the needs of the daytime population. A key objective of the plan is to maintain existing facilities and level of service. This will include funding another fire station south of the Southern Pacific Railway to accommodate anticipated future industrial development in the area.

2.6.3 Land Use Assumptions and Observations

- The area north of Buckeye Road and east of 107th Avenue (TAZs 287 and 292) is planned for nonresidential development.
- Residential development in TAZs 289 and 290 is anticipated to be built out within the next two years.
- Ryan Business Park is currently being developed in TAZ 290.
- Potential annexation at the northwest corner of 75th and Buckeye.

2.7 Town of Buckeye General Development Plan

Buckeye is located off of I-10 to the west of Litchfield Park, Avondale and Goodyear. The town is approximately 450 square miles and has been the hub of Maricopa County agribusiness for generations. Population over the past decade has increased from 5,038 in 1990 to 6,537 in 2000, an increase of 30 percent. The town is experiencing tremendous growth pressures with the approval of several master planned communities to the north of I-10. To accommodate and prepare for this anticipated growth the Town prepared a General Plan Update with new planning requirements, goals and policies.

The community is preparing for extensive growth through several master planned communities, intensification of development in and around Downtown Buckeye and through annexation. While preparing for this growth the community supports farming as a principal component of the Town's open space as well as of its economy. Farming is important to the Town's character and the community recognizes the need to protect it from urban impacts while allowing development in the community.

2.7.1 Utilities

In terms of utilities the town has an ample water supply and is able to support large-scale urban growth, however as future growth and development occurs they will need to sustain their supply. The Town's water delivery system is near capacity and will require expansion to support additional development. Buckeye's wastewater treatment facilities have been expanded to handle a population of 16,000 persons.

2.7.2 Growth Areas

Growth areas identified in the general plan, which will contribute to population and employment in the community, include the following:

- **Master Planned Communities** – Eight master planned residential developments, referred to as the North Buckeye Master Plan, have been approved. Each development will be supported with a mixture of shopping, service, institutional, employment and open space uses. These master planned communities will probably represent 80 percent or more of Buckeye's population growth to the year 2020. Dwelling units in these eight communities is expected to equal 129,990 with a population of 389,970 persons. These master planned communities will be located north of I-10 and Sun Valley Parkway will connect the proposed master planned communities to other parts of Buckeye and the metropolitan region.
- **Freeway Corridor** – Three freeway corridor communities, White Stone, Sundance and Rostan have also been approved. The estimated residential units and population of these three communities is expected to equal 24,250 dwelling units with a population of 72,750 persons.
- **Freeway Interchange Centers** – The Town is anticipating that nodes of highway serving, hospitality and employment uses will occur at designated interchanges along I-10.
- **Central Buckeye Development** – In the general plan downtown is expected to become more intense, pedestrian oriented and larger in scale. The plan focuses on infill development incentives to accomplish this.
- **Employment Corridors** – Buckeye wishes to maintain an adequate housing to jobs balance and therefore will promote employment growth in certain key corridors that are nearby and accessible to the Town's residential growth areas. This includes Buckeye Airport, located south of I-10, which is an ideal location for economic development.
- **Annexation Growth** – The city plans on annexing the State Prison complex, along State Route 85. This annexation will add jobs and population to Buckeye. Additionally, further annexations in particular to the west and south may be anticipated for commercial and highway convenience uses, and accommodations for visitors.

2.7.3 Land Use Assumptions and Observations

- Residential and commercial development will primarily occur within the central part of the city and this area is anticipated to be built out by the Year 2020.
- Other key growth areas include Verado, TAZs 1810, 1834 (north of I-10 and south of Camelback) and Sun Valley, TAZ 1805 (south of Camelback). These areas are anticipated to build out by the Year 2020.
- A large group quarters population in the Year 2000 was shown in TAZ 1898, no group

quarters population was shown in TAZ 1957, which is the location of the prison. This was adjusted for the revised 5.4 and 6.8 interpolated scenarios.

- Areas north of I-10 is not expected to completely build out by the Year 2020.
- Growth in the southern part of the MPA boundary (south of Gila River), which includes TAZs 1924, 1946, 1957 and 1958, is expected to occur well beyond 2020 due to lack of infrastructure.

2.8 Gila Bend Master Plan Update

The Town of Gila Bend is located 65 miles south of the Phoenix Metropolitan Area. Situated at the intersection of Interstate 8 and State Route 85, 30 miles south of Interstate 10, Gila Bend is a traverse point for travelers between Phoenix, San Diego and Puerto Penasco, Mexico. With a U.S. Census population of 1,980 persons in the Year 2000, a 13 percent increase since 1990, Gila Bend's has had moderate population growth. Through interviews associated with this transportation study, based upon recent development interest, expansion of local employers and development of new industries, the population is expected to crest 5,000 persons by Year 2010.

To accommodate the projected increase in population, the master plan identifies a need for an additional 119 acres of residential land use by the Year 2020. This additional acreage has been increased by a land demand expansion factor of 2.5 to allow development choice. Similarly, the additional acreage identified for projected future commercial and industrial land use is 148 acres. The additional nonresidential acreage is for an increase of 25 percent for commercial retail and industrial development and 50 percent for a recreational vehicle site. The expansion factor was also applied to the projected commercial and industrial acreage.

2.8.1 Key Land Use Issues

The following issues were identified in the Master Plan Update:

- Encourage both residential and commercial development infill;
- Develop industrial use along Butterfield Highway (State Business Route 8);
- Plan for future annexation to the west and south, which indicated future growth pattern;
- Potential future development of a landfill to the west, along Citrus Valley Road north of I-8;
- Need for a recreational vehicle park and golf course development; and,
- Provision of mixed use developments.

2.8.2 Land Use Plan

In all, the land use plan includes six residential classifications ranging from one (very low density) to 16 (high density) dwelling units per acre, two commercial categories with maximum floor area ratios (FAR) of 0.25 (neighborhood) and 0.30 (general business), and three industrial designations each with FARs of 0.35. In addition there are public/semi-public areas and parks and open space.

2.8.3 Development Assets

According to the Master Plan, the Town has several economic development assets, which translate into future development opportunities for the purpose of this transportation study. The assets listed in the plan are as follows:

- Land adjacent to the Southern Pacific Railroad;
- Substantial vacant commercial land with available infrastructure;
- Vacant industrial land along Butterfield Highway;
- Vacant developable land along I-8;
- Large land holdings, which may lend themselves to larger mixed use developments;
- Job opportunities in the retail and service sectors;
- Employment opportunities at the potential future regional landfill site to the west of Town;
- Economic development opportunities associates with the Gila Bend Municipal Airport; and,
- Quality education, which is attractive for residential development.

2.8.4 Facilities and Services

The availability and adequacy of public facilities and services contributes to the Town's ability to develop in the future. A policy of the master plan is to encourage development in areas where there are adequate public facilities and services or where they can be extended in a fiscally responsible manner. The availability of these facilities and services will guide the timing and sequencing of future growth within the Gila Bend MPA. Key recommended improvements include a water supply study to determine future expansion needs as well as a capital improvement program to schedule and budget capital facilities and improvements.

2.8.5 Land Use Assumptions and Observations

- Power plant to the north of the City, approximately 60 employees.
- Power plant to the west of the City, approximately 40 employees.
- Diamond Lake Ranch, a master planned community with golf course and approximately 100 lots.
- Potential annexation of land along I-8.
- Population expected to equal 5,000 to 10,000 by 2010.
- Potential annexation of Paloma Ranch to the west of the City.

2.9 Goodyear General Plan

The City of Goodyear is located in the West Valley at the urbanized edge of the Phoenix Metropolitan Area. The City is abutted by Avondale to the east, Litchfield Park to the northeast, and Buckeye to the west and is within close proximity to Tolleson and Phoenix to the east, Surprise to the north and partially by unincorporated Maricopa County to the north, west and south. Interstate 10 traverses the northern extent of the community and the Gila River bisects the community from east to west. The Phoenix-Goodyear Airport is located adjacent to the north of

County Route 85 and Luke Air Force Base is situated to the north of the City, each of which present constraints to future development. The Arizona State Prison Complex at Perryville and the Casey Abbott Recreation Area are two of the major land use features in the City. The Estrella Mountain Regional Park is also located to the east of the planning area of which approximately 10,240 acres (15 square miles) is within the planning area boundary.

With an estimated population of 16,865 persons in the Year 2000, an 86.7 percent increase since 1995, Goodyear has been experiencing a high rate of growth, which is expected to continue through the Year 2020 and beyond. According to their General Plan prepared in 1998, which references forecasts prepared by the Maricopa Association of Governments (MAG), the City's population is projected to exceed 88,000 residents by the Year 2020. As stated in the plan and confirmed through interviews associated with this transportation study, based upon their ongoing development trends, it is anticipated that population will exceed the Year 2020 projection. The General Plan has the flexibility to guide development that will result in a population between 200,000 and 700,000 persons.

2.9.1 Economic Analysis

A component of the general plan update, and specifically the land forecast and demand analysis of the proposed land use plan, is an economic analysis. The analysis outlines the amount of land necessary to support the projected future population and employment. Key issues and outcomes identified in the plan are as follows:

- Employment related land is designated near or adjacent to the Phoenix-Goodyear Airport as well as along I-10 and the Southern Pacific Railroad.
- The community has a 60 percent ratio of employed persons to residents, which is higher than any other municipality in the West Valley and places it second to Phoenix as an employment center.
- As identified in the general plan, the employment to population ratio is anticipated to decrease to around 25 percent by the Year 2020. The Goodyear Focused Future Strategic Plan for Economic Development has a goal of an employment to population ratio of no less than 50 percent.
- Based upon a projected Year 2020 population of 88,021 persons and a 50 percent employment to population ratio, there will be 44,010 jobs in the Year 2020, which equates to an additional 2,000 acres of land for employment use by the Year 2020.
- There are significant amounts of land within the City that are impacted by the noise contours of the Phoenix-Goodyear Airport and Luke Air Force Base, which constrains future residential development in these areas. These areas are, however, appropriate for employment uses.
- Two square miles of land within the City have been designated as Agriculture, which is valued to provide for an economic development component (Food, Fiber and Natural Products).
- A 640-acre City Center is planned as a central focal point of the community, including the master planned communities of Estrella Mountain Ranch and Palm Valley.
- The total population at build out is estimated to range from 286,309 to 688,777 persons, which is dependent upon density. Assumptions include 2.75 persons per household, 20 percent of all residential acreage consumed by rights-of-way and 10 percent vacancy.

2.9.2 Summary of Development Objectives:

The following are key development objectives identified in the Master Plan that affect and guide growth in the community.

- Maintain a minimum of 50 percent employment per population ratio;
- Maintain enough employment designated land to support the community through build-out regardless of short term market trends;
- Continue to encourage expansion and retention of Goodyear's growing retail business base and become the retail center for West Valley;
- Promote master planned developments that contain an appropriate mix of uses so residents can live, work and shop in close proximity;
- Do not allow residential development within the 65 dnl (average yearly day/night) noise contours associated with Luke Air Force Base and the Phoenix Goodyear Airport; and,
- Promote development that is close to existing infrastructure.

2.9.3 Land Use

The City of Goodyear is largely undeveloped with two master planned communities, Palm Valley and Estrella Mountain Ranch, located on the north and south portions of the planning boundary. The City's Land Use Plan encourages a balance of employment and residential development. A key goal of the master plan is to diversify the economy, increase employment opportunities within the community and maintain Goodyear as a self sufficient community. There are twelve land use categories shown on the plan, which includes five residential categories with densities ranging from 1du/ac or less to 12+ du/ac.

2.9.4 Land Use Assumptions and Observations:

- TAZ 200 is more likely to develop as employment rather than residential because of its proximity to Luke Air Force Base.
- TAZs 229, 230, 231 and 232, as designated on the general plan, will most likely develop as nonresidential.
- A group quarters population of 226 persons is shown in TAZ 232. This was identified as being in the wrong TAZ. A group quarters population of approximately 226 persons should be shown in TAZ 217 due to the presence of a nursing home.
- TAZ 214, population will increase as there are several developments planned for the area totaling approximately 2,700 units.
- TAZ 217, a hospital is being built in this TAZ, therefore the number of employees will increase.
- TAZ 233 and 1873, based on known planned developments population will increase.

2.10 Phoenix

The southwest portion of Phoenix is located within the study area, which includes the Villages of Estrella and Laveen. The Phoenix General Plan identifies future land use patterns for these communities. Additionally the villages have prepared individual plans to guide more specifically growth in their community. Recently, the Phoenix Planning Department prepared two plans for the villages of Laveen and Estrella. The purpose of these plans was to review and update previous general plans to reflect current conditions and needs of the community. These general plans will serve as a guide for future growth and development in these communities.

In 1998, The City of Phoenix Planning Department prepared a Southwest Growth Study for the community of Laveen. Laveen is located in southwest Phoenix, with part of the community in the city limits and part in Maricopa County. The community is largely undeveloped and is a 10 to 20 minute commute to I-10 and downtown Phoenix. The study area of the plan is 28 square miles and includes all land bounded by 27th Avenue, South Mountain Park, the Gila River Indian Community and the Salt River. The purpose of the plan is guide future development in the area while protecting its natural amenities. The general plan for this study area proposes Laveen to develop primarily as low to medium density residential with the South Mountain Loop providing access to and from the area and serving as the focus for employment and business land uses. According to the study, at build out, the projected population of this area is expected to equal approximately 94,000 persons.

The Estrella Village Plan was prepared in 1999. Estrella Village encompasses approximately 41 square miles and is located south of I-10 and north of the Salt River, in southwest Phoenix. Approximately 45,000 people live in the Village and 38,000 people are employed in the community. The majority of the community, 62 percent, is undeveloped or used for agriculture purposes. Estrella borders the City of Tolleson and Avondale on the west. The general plan for Estrella Village proposes for low to moderate density residential development south of Buckeye Road and west of 59th Avenue, a significant amount of industrial development (40 percent of all land uses) to the east of 59th Avenue and a village core, which would include commercial development and community wide facilities. According to the plan, at build out population estimates are expected to equal 104,592 persons.

2.10.1 Land Use Assumptions and Observations

- Non residential development in Estrella Village is expected to be 75 percent built out by the Year 2020. Residential development is expected to be 70 to 80 percent built out by the year 2020.
- Residential development in Laveen is expected to be built out by the year 2020 with the exception of TAZs 1621, 890, 964, 968 and 971, located south of Salt River, which are expected to be built out beyond the year 2020.
- Potential rezoning of TAZ 874 (tract south of Buckeye and east of 99th Street, area around the Tolleson wastewater treatment plant) from industrial to residential.
- Potential rezoning of the northeast corner of TAZ 879, located south of Buckeye Road and east of 75th Avenue, from industrial to residential.

2.11 Litchfield Park

The City of Litchfield Park is located north of I-10 at the southwestern edge of the Phoenix metropolitan area. The City is abutted by Avondale on the east and Goodyear on the west. Litchfield Park consists of an area slightly more than three square miles and a population of 3,739 persons. The City's area could potentially increase to four square miles due to annexation. The City currently consists primarily of residential development, with a large portion of its land devoted to recreational purposes.

2.11.1 Land Use

Land uses currently present in the community consist of residential neighborhoods surrounding the Village center and the Wigwam Resort. Commercial and employment uses are currently minimal. A key objective of the land use element is to encourage appropriate, new nonresidential development while preserving the City's residential and resort character. Therefore key issues facing the community include the careful selection of land uses for infill, reuse or redevelopment and annexation to achieve an appropriate and desired mix of uses. The Land Use Plan consists of 10 categories with three residential categories ranging from 0-4 du/ac to 11+ du/ac. Additional categories include commercial, resort, golf course, parks, public, health care and industrial.

2.11.2 Growth Areas

Growth in the community is expected to occur through continued development in two master planned sectors, intensification of the central core and through annexation. The following are growth areas in the community:

- The Village at Litchfield Park –More than 1,000 dwelling units are proposed in this development.
- Rancho La Loma Healthcare Campus – This campus is intended as a masterplanned subcommunity dedicated to health care and will include continuum of care living.
- Resort Expansion/Infill development – Wigwam Resort plans to expand its guest facilities. Additionally, there is potential for infill development in the village core.
- Dysart Road Corners – Retail development is being planned on the northeast corner of Indian School and Dysart and the southeast corner of Dysart and Camelback.
- Camelback and Litchfield – This 80 acre site offers the potential for retail commercial and office uses.

2.11.3 Land Use Assumptions

TAZ 261

- 23 acres has been annexed from Goodyear for the Village at Litchfield Park Development.
- 10 acres at the northwest corner of the Litchfield Bypass and Indian School Road will be converted from general commercial to residential as part of the Village of Litchfield Park Development.
- 300 acre development at the northwest corner of Litchfield and Camelback Road, includes 760 dwelling units as part of the La Loma development, in addition 52 acres has been zoned

for continuum of care (estimated 100 units). A 75, 000 square foot office complex is currently in the development review phase.

- 80 acre tract at the northeast corner of Litchfield and Camelback Road likely to develop as mixed use.

TAZ 263

- 20 acre Wigwam Creek Center at the northeast corner of Dysart Road and Indian School Road is in the development review phase (150,000 sq. ft. retail center).
- Wigwam Creek Development is actively developing with an estimated build out of a 130 units.

2.12 Glendale

The majority of Glendale is within the northwest study area; therefore its general plan was not summarized in this section.

2.12.1 Land Use Assumptions and Observations

- Minimal residential development will occur in TAZ 408, due to the Air Installation Compatible Use Zone (AICUZ), not more than 1 unit per acre.
- Currently there is a commercial activity node planned for TAZ 401. Potential for 700 to 800 jobs in this TAZ.
- Based on existing development patterns, residential development in 411 will approach build out by the Year 2020.

2.13 Maricopa County

Maricopa County, located in central Arizona, encompasses 9,226 square miles. The county is bisected by the Salt River, which runs northeast to southwest. Maricopa County has experienced rapid growth throughout its history and has transformed from an agriculture center to a commercial, recreational and industrial hub. Population in the county grew from 2,122,101 persons in 1990 to 3,072,149 persons in 2000, an increase of 45 percent. The Arizona Department of Economic Security projects that the county will have a population of 4.5 million people by the year 2020.

2.13.1 Land Use

The land use element focuses on accommodating growth in the unincorporated areas of the county. Due to the vast area of Maricopa County, land use designations identified in the plan consist of generalized land use, development, or preservation concepts, not specific land uses or densities. However some areas do have more detailed plans that identify specific land uses. Land use designations include: incorporated areas, general plan development areas, county area plans, established communities, existing development master plans, dedicated open space, proposed open space, rural development area, and municipal planning area. Land use densities range from one dwelling unit per five acres in rural development areas to much higher densities allowed as part of a development master plan.

Development Master Plans are an important part of the development pattern in the county because they provide opportunities for innovative design, a variety of housing choices, mixed land use opportunities and a multi modal transportation system. The county encourages development master plans within any land use area. Currently there are 11 development master plans that are built out, under construction or proposed within the County. One of these master plans, Belmont is located in the southwest study area and is currently in the proposal phase.

There is significant amount of dedicated open space areas in the unincorporated areas of the county under public ownership. These areas include regional parks, wilderness areas, wildlife areas and the Tonto National Forest. In the southwest study area there are several wilderness areas including Eagletail Mountains, Signal Mountain, Woolsey Peak, North Maricopa Mountains and South Maricopa Mountains. A national monument area is also located in the south part of the study area. In addition to areas designated as open space there is also a significant amount of land owned by the State and Bureau of Land Management. There are 650 square miles of proposed open space in the unincorporated areas of the county, of which 360 square miles are publicly-owned.

2.13.2 Land Use Assumptions and Observations

- There is a significant amount of land in the county owned by the state and federal governments including the Bureau of Land Management (BLM). There is uncertainty as to the future development of this land, however, it is not expected to develop any time in the next 20 years.
- The majority of land in TAZ 1956 is owned by the BLM and the State.
- TAZs 1968, 1970, 1972 and 1973 is a national monument area, therefore minimal development will occur in this area.

2.14 Environmental Justice and Title VI

In accordance with federal and state requirements, individuals who fall into identified environmental justice and Title IV population groups within the southwest study area are identified in this section for later consideration in the evaluation of transportation improvement options. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, requires “federal agencies to achieve environmental justice by identifying and addressing disproportionately high and adverse human health and environmental effects, including the interrelated social and economic effects of their programs, policies, and activities on minority populations and low income populations in the United States” (FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations). Population groups identified in this section include minority, elderly, low income, female head of households and persons with a disability.

Data is provided at the census tract level for this analysis. Some census tracts fit within the boundary of the southwest study area; however, others are split by the study area boundary. Census tracts should not be subdivided indiscriminately; therefore data for the entire census tract were used even though the entire tract was not within the study area boundary. This element was prepared prior to the release of the full year 2000 decennial census. Therefore the 1990 Census and/or 1995 MAG Special Census was used for certain demographic variables not yet released by the Census Bureau at the tract level for the Year 2000. Figure 2-5 displays the 1990 and 2000 study area census tracts used for this analysis. Demographic data at the census tract level is provided in Section 2.17.

2.14.1 Minority Populations

This section involves assessing the number of White and minority populations within the study area. Minority populations are defined in accordance with Executive Order 12898, U.S. Department of Transportation’s (DOT) Order DOT 5610.2 and Federal Highway Administration’s DOT Order 6640.23 Actions to Address Environmental Justice in Minority Populations and Low-income Populations. Minority is defined as:

- Black (having origins in any of the black racial groups of Africa);
- Hispanic (of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
- Asian American (having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or
- American Indian and Alaskan Native (having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).

Table 2-3 displays race, Hispanic Origin and minority populations for the study area and Maricopa County. As shown, 65 percent of the study area consists of minority populations, which is almost double the percentage of the minority population in the county. Additionally, there are a significant number of persons of Hispanic origin in the study area, 217,587 persons or 55 percent, compared to

Table 2-3
Race, Hispanic & Minority Population, 2000

	Study Area	Percent	Maricopa County	Percent
White alone	224,357	56.6	2,376,359	77.4
Black or African American alone	23,104	5.8	114,551	3.7
American Indian and Alaska Native alone	8,529	2.2	56,706	1.8
Asian alone	5,914	1.5	66,445	2.2
Native Hawaiian and Other Pacific Islander alone	557	0.1	4,406	0.1
Some other race alone	117,897	29.8	364,213	11.9
Two or more races	15,822	4.0	89,469	2.9
Total Population	396,180	100.0	3,072,149	100.0
Hispanic Origin	217,587	54.9	763,341	24.8
Minority Population	257,686	65.0	1,037,619	33.8

Source: U.S. Census Bureau, 2000

25 percent in the county. As shown in Figure 2-6, there are a significant number of census tracts with high concentrations of minority populations, with the majority of tracts in the study area having a minority population of 50 percent or more.

2.14.2 Age 60 Years and Over

As displayed in Table 2-4, Census data indicates that 9 percent of the population in the study area consists of persons more than 60 years of age, which is lower than the county average of 15 percent. As displayed in Figure 2-7, the highest concentrations of the elderly (census tracts where 22 to 30 percent of population consists of persons 60 years and over) are located in two tracts in Goodyear and Litchfield Park. Other concentrations of persons 60 years and over are located in the City of Phoenix. The majority of the study area consists of census tracts with 8 to 15 percent of the population 60 years and over.

Table 2-4
Age 60 Years and Over, 2000

	Persons Over 60 years of Age	Percent	Total Population
Study Area	33,688	9	396,180
Maricopa County	466,269	15	3,072,149

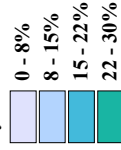
Source: U.S. Census Bureau, 2000

2.14.3 Poverty

Table 2-5 identifies persons whose income in 1989 was below poverty level. The average poverty threshold for a family of four persons was \$12,674 in 1989. As shown, 18 percent of the population within the study area was living below poverty level, compared to 12 percent of the county population. Figure 2-8 displays the percent of tract population living below poverty level. According to the 1990 Census, the majority of census tracts in the study area had 15 to 30 percent of

**Figure 2-7
Population Age 60 Years
And Older, 2000**

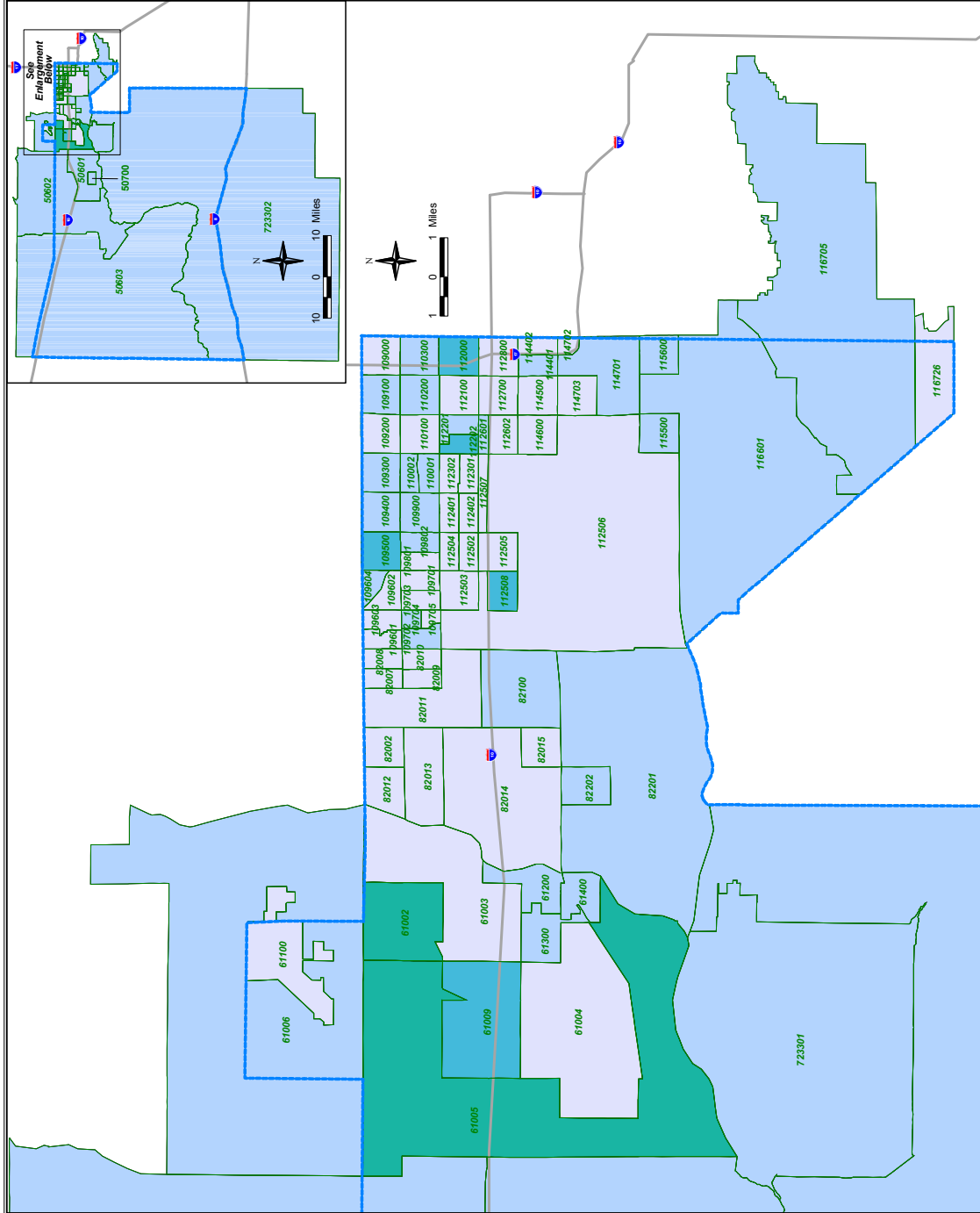
**Percent of Population Age 60 and Over
By Census Tract**



**Southwest Study
Area Boundary**

**2000 Census Tract Boundary
2000 Census Tract Number**

Source: U.S. Census Bureau 2000 Census



their population living below poverty level. A higher concentration of persons living below poverty level is located in the eastern part of the study area just south of I-10 and west of I-17. Only one census tract located in the City of Phoenix (Tract 1128) was identified as having 50 percent or more of the population living below poverty level.

Table 2-5
Persons Living Below Poverty Level, 1990

	Total Population	Below Poverty Level	
		Persons	Percent
Study Area	278,167	48,842	18
Maricopa County	2,122,101	257,359	12

Source: U.S. Census Bureau, 1990

2.14.4 Household Income

Table 2-6 displays the number of households with an income less than \$15,000, based on the 1995 MAG Special Census. Sixteen percent of households in the study area had an income below \$15,000 compared to 12 percent of households countywide. As shown in Figure 2-9, the majority of census tracts had 10 to 20 percent of households with an income less than \$15,000. The highest concentrations of households with an income less than \$15,000 are located in a few tracts primarily in the City of Phoenix.

Table 2-6
Number of Households with Income Less than \$15,000 in 1995

	Households	Total Households	Percent
Study Area	16,571	104,335	16
Maricopa County	114,342	957,730	12

Source: 1995 MAG Special Census

2.14.5 Educational Attainment

Educational attainment refers to the highest degree earned or the highest level of schooling earned. Educational attainment at a level of receiving a diploma or less, historically are lower wage earners. As shown in Table 2-7, 60 percent of persons 25 years of age and over in the study area received a high school diploma or less compared to 44 percent of persons countywide.

**Figure 2-8
Poverty, 1990**

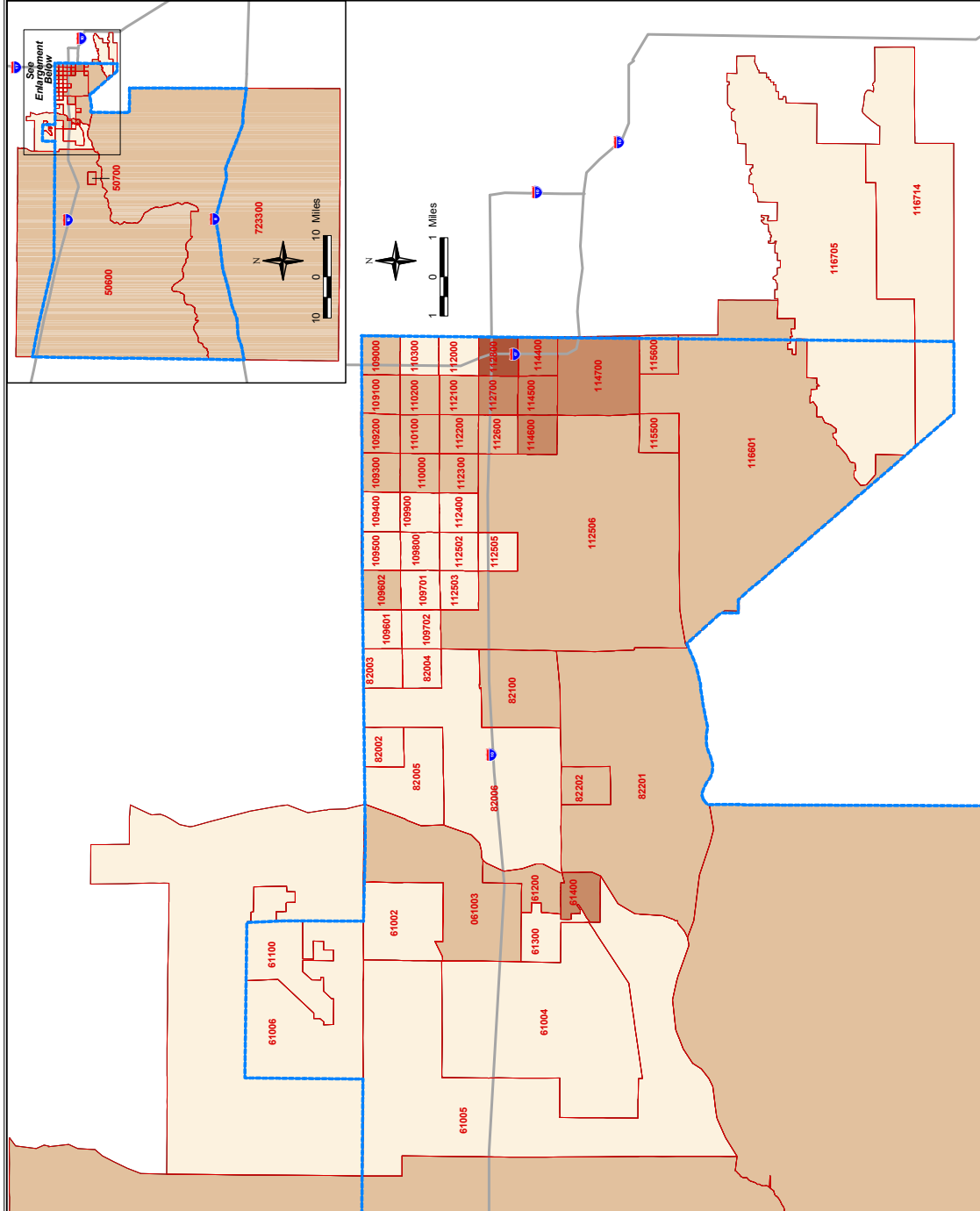
**Percent of Population in Poverty
By Census Tract**



**Southwest Study
Area Boundary**

1990 Census Tract Boundary
10000 1990 Census Tract Number

Source: U.S. Census Bureau 1990 Census



**Figure 2-9
Household Income
Less Than \$15,000, 1995**

**Percent of Households with Income Less
Than \$15,000 By Census Tract**



**Southwest Study
Area Boundary**

1990 Census Tract Boundary

10000 1990 Census Tract Number

Source: Maricopa Association of Governments
1995 Special Census

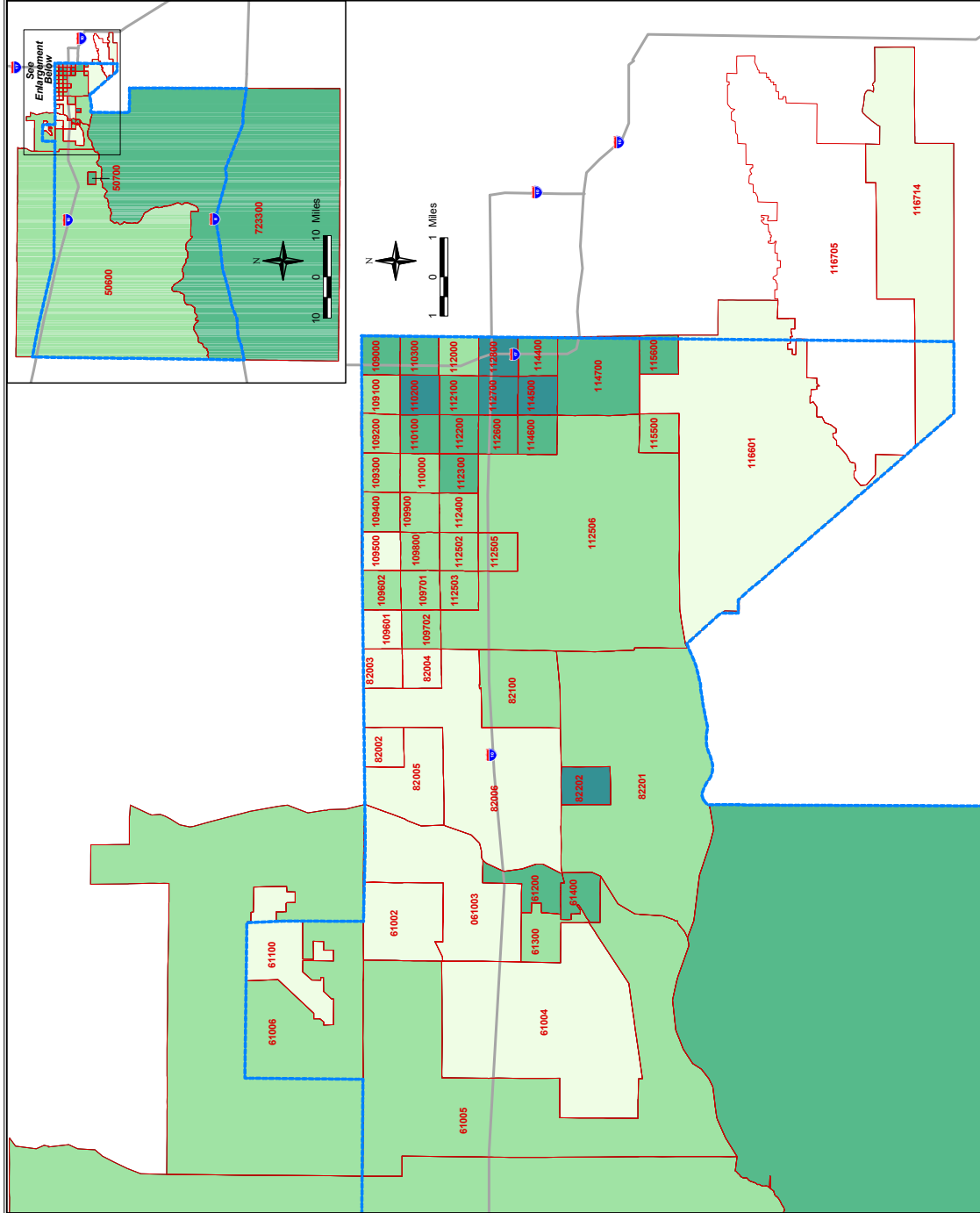


Table 2-7
Persons 25 Years and Older Who Received
A High School Diploma Or Less, 1990

	Persons	Persons 25 Years and Over	Percent
Study Area	92,978	154,079	60
Maricopa County	591,069	1,344,654	44

Source: U.S. Census Bureau, 1990

2.14.6 Female Head of Household

Households headed by females with no husband present have historically been known to be lower in income than other households. As displayed in Table 2-8, 15 percent of households in the study area were headed by females compared to 11 percent countywide. As shown in Figure 2-10, there are higher concentrations of female headed households throughout the study area than compared to the county average. The majority of the area consists of census tracts with 7 to 25 percent of households headed by females. Based on the census data, the highest concentration of female headed households are located within several tracts in the northeast portion of the study area. Tract 1147.02 had the highest concentration with over 50 percent of households headed by females.

Table 2-8
Female Head of Households, 2000

	Total Households	Female Headed Households, No Husband Present	Percent	Female Headed Households With Children Under 18	Percent
Study Area	111,833	17,000	15	10,999	10
Maricopa County	1,132,886	121,637	11	75,031	7

Source: U.S. Census Bureau, 2000

2.14.7 Work and/or Mobility Disability

Table 2-9 identifies the percentage of population in 1990, greater than or equal to 16 years of age with a mobility disability, work disability, or self-care limitation.

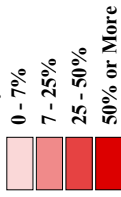
According to the Census Bureau, persons were identified as having a mobility limitation if they had a health condition that had lasted for six or more months and which made it difficult to go outside the home alone. Examples of outside activities include shopping and visiting the doctor's office.

Persons were identified as having a self-care limitation if they had a health condition that had lasted for six or more months and which made it difficult to take care of their own personal needs, such as dressing, bathing, or getting around inside the home.

Persons were identified as having a work disability if they had a health condition that had lasted for six or more months and which limited the kind or amount of work they could do at a job or

Figure 2-10
Female Heads of Households,
2000

**Percent of Households Headed by
Females By Census Tract**



**Southwest Study
Area Boundary**
2000 Census Tract Boundary
2000 Census Tract Number

Source: U.S. Census Bureau 2000 Census

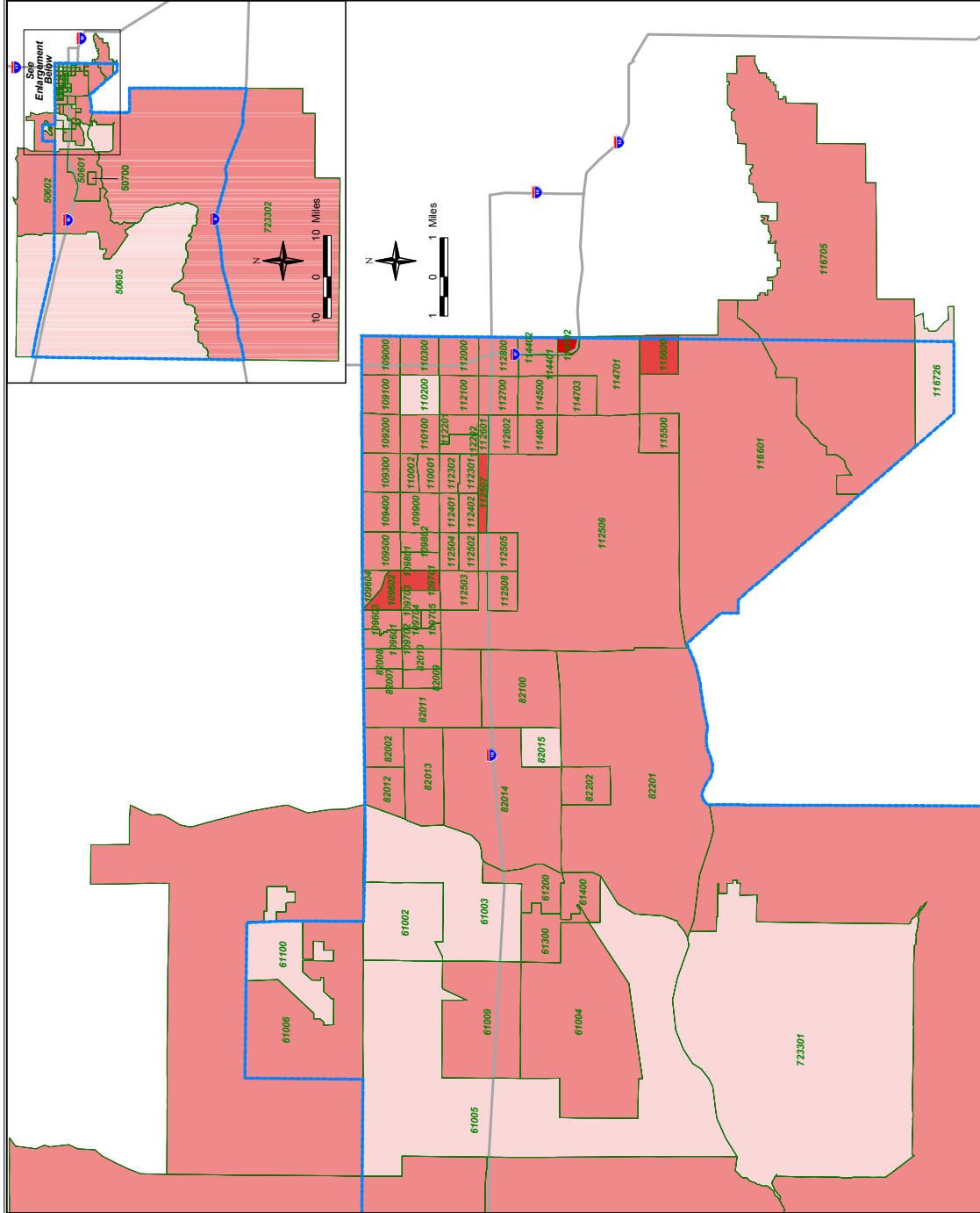


Table 2-9
Population 16 Years of Age and Older
With A Work, Mobility or Self Care Disability, 1990

	Population > 16 Years of Age	Disability (Work, Mobility, Self Care)		Mobility Disability	
		Persons	Percent	Persons	Percent
Census Tracts within the Study Area	195,603	26,705	14.0	7,409	3.8
Maricopa County	1,621,189	207,610	13.0	56,942	3.5

Source: U.S. Census Bureau, 1990

business. A person was limited in the kind of work he or she could do if the person had a health condition which restricted his or her choice of jobs. A person was limited in the amount of work if he or she was not able to work full-time.

As shown in Table 2-9, 14 percent of persons 16 years of age and over in the study area claimed a disability, which is slightly higher than the county average of 13 percent. As displayed in Figure 2-11, the highest concentration of persons claiming a disability in the study area are located in a few census tracts in the City of Phoenix. The majority of census tracts in the study area have 10 to 20 percent of tract population claiming a disability.

2.15 Transit-Dependent Populations

Transit-dependent populations typically include the elderly, children enrolled in school, persons with a mobility disability, minority persons, young female population and low-income persons. There are several demographic characteristics that can be analyzed to determine concentrations of transit-dependent populations, many of which have been previously identified in this section, including the elderly, minority persons, median household income and persons living below poverty level. Additional demographic characteristics that can be used in identifying transit-dependent populations are identified below and include households with no vehicle available, persons with a mobility disability, children enrolled in school and young female population.

2.15.1 Households with No Vehicle Available

The level of automobile ownership has a significant influence on the market for public transit service. Generally, where there are low levels of automobile ownership, there is a high level of transit demand potential. Households without a vehicle must rely on public transportation, friends, or walking to get to work and other destinations. As shown in Table 2-10, Census data indicates that 9 percent of occupied housing units in the study area have no vehicle available, which is slightly higher than the County average of 7 percent. As displayed in Figure 2-12, the highest concentrations of housing units with no vehicles (census tracts with greater than 25 percent of

Table 2-10
Occupied Housing Units with no Vehicle Available, 1990

	No Vehicle	Occupied Housing Units	Percent
Study Area	7,998	88,983	9.0
Maricopa County	57,626	807,560	7.1

Source: U.S. Census Bureau, 1990

housing units without an automobile) available are located in several census tracts in the eastern portion of the study area. The majority of census tracts in the study area have less than 10 percent of occupied housing units with no vehicles available.

2.15.2 Children Enrolled in School

As shown in Table 2-11, approximately 21 percent of the total population in 1990 was enrolled in school, compared to 17 percent of the County population. As displayed in Figure 2-13, the highest concentrations of school children (census tracts where 24 percent or more of the population is enrolled in school) are located in several tracts located in the northeast portion of the study area, in the City of Phoenix and in the City of Avondale. The majority of the study area consists of census tracts with 16 to 24 percent of the population enrolled in school.

Table 2-11
Person enrolled in Elementary or High School, 1990

	Students	Total Population	Percent
Study Area	57,929	278,167	20.8
Maricopa County	351,130	2,122,101	16.5

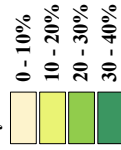
Source: U.S. Census Bureau, 1990

2.15.3 Persons with a Mobility Limitation

Persons with mobility limitations include all civilian non-institutionalized persons 16 years and older who reported having a physical or mental handicap which limits their mobility. In many cases these persons require the use of special transit services with door-to-door personal assistance and handicap accessible vehicles. However, there is a certain percentage of these persons who, if transit is available would be willing and able to use this service. As shown in Table 2-9, 3.8 percent of the population 16 years and over in the southwest study area claimed a mobility disability. Displayed in Figure 2-14 are concentrations of mobility impaired persons as a percentage of census tract population 16 years and over. As shown, there are no major concentrations persons with a mobility limitation. The majority of the study area has census tracts with 3 to 6 percent of the population claiming a mobility disability. None of the tracts within the study area have mobility impaired populations exceeding 13 percent.

**Figure 2-12
Occupied Housing Units
Without Vehicles, 1990**

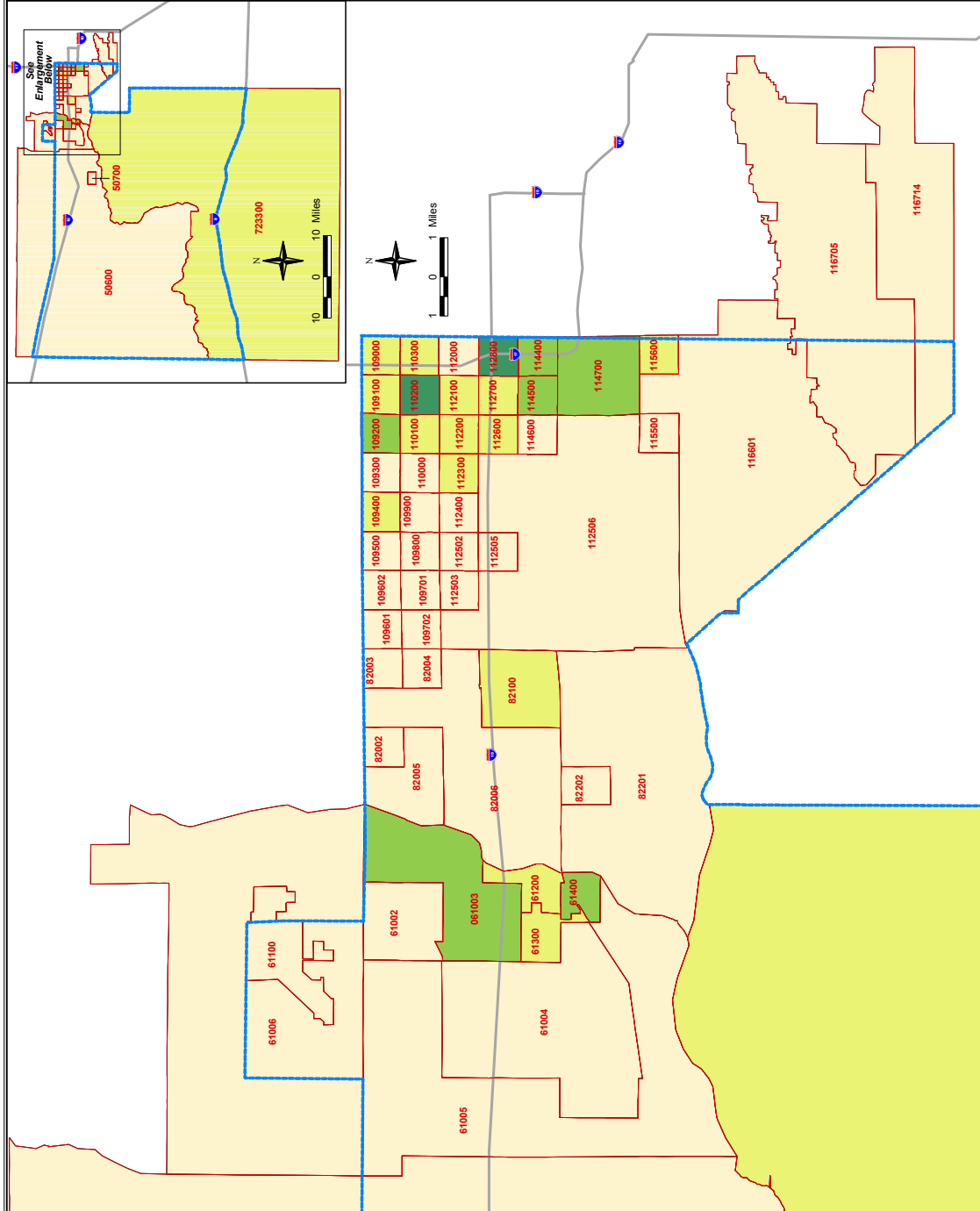
**Percent of Households with No Vehicle
By Census Tract**



**Southwest Study
Area Boundary**

1990 Census Tract Boundary
10000 1990 Census Tract Number

Source: U.S. Census Bureau 1990 Census



**Figure 2-13
School Enrollment, 1990**

**Percent of Population Enrolled in
Elementary or High School
By Census Tract**

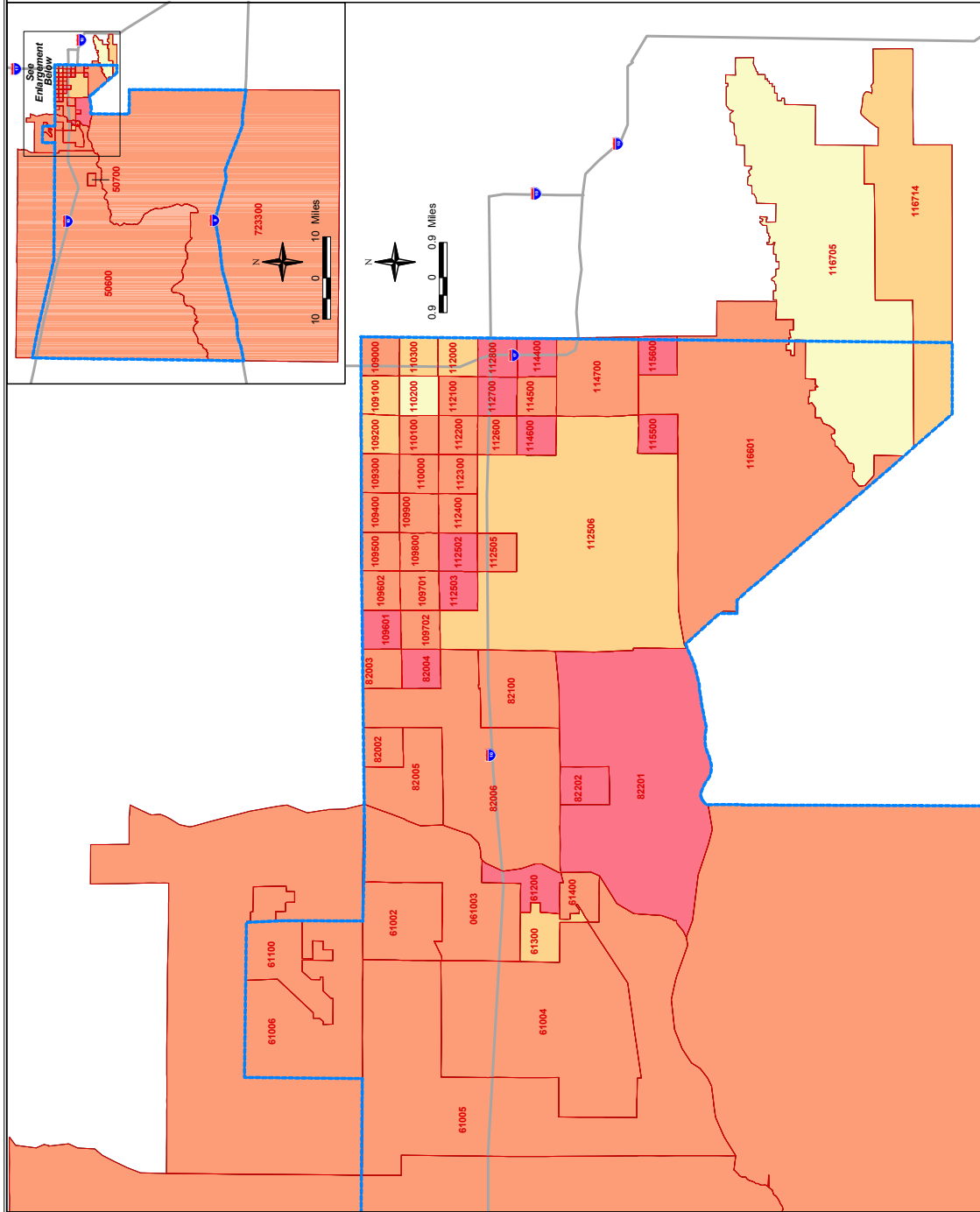
0 - 8%
8 - 16%
16 - 24%
24 - 32%

**Southwest Study
Area Boundary**

1990 Census Tract Boundary

10000 1990 Census Tract Number

Source: U.S. Census Bureau 1990 Census



**Percent of Population Aged 16 And Older
With Mobility Disability By Census Tract**

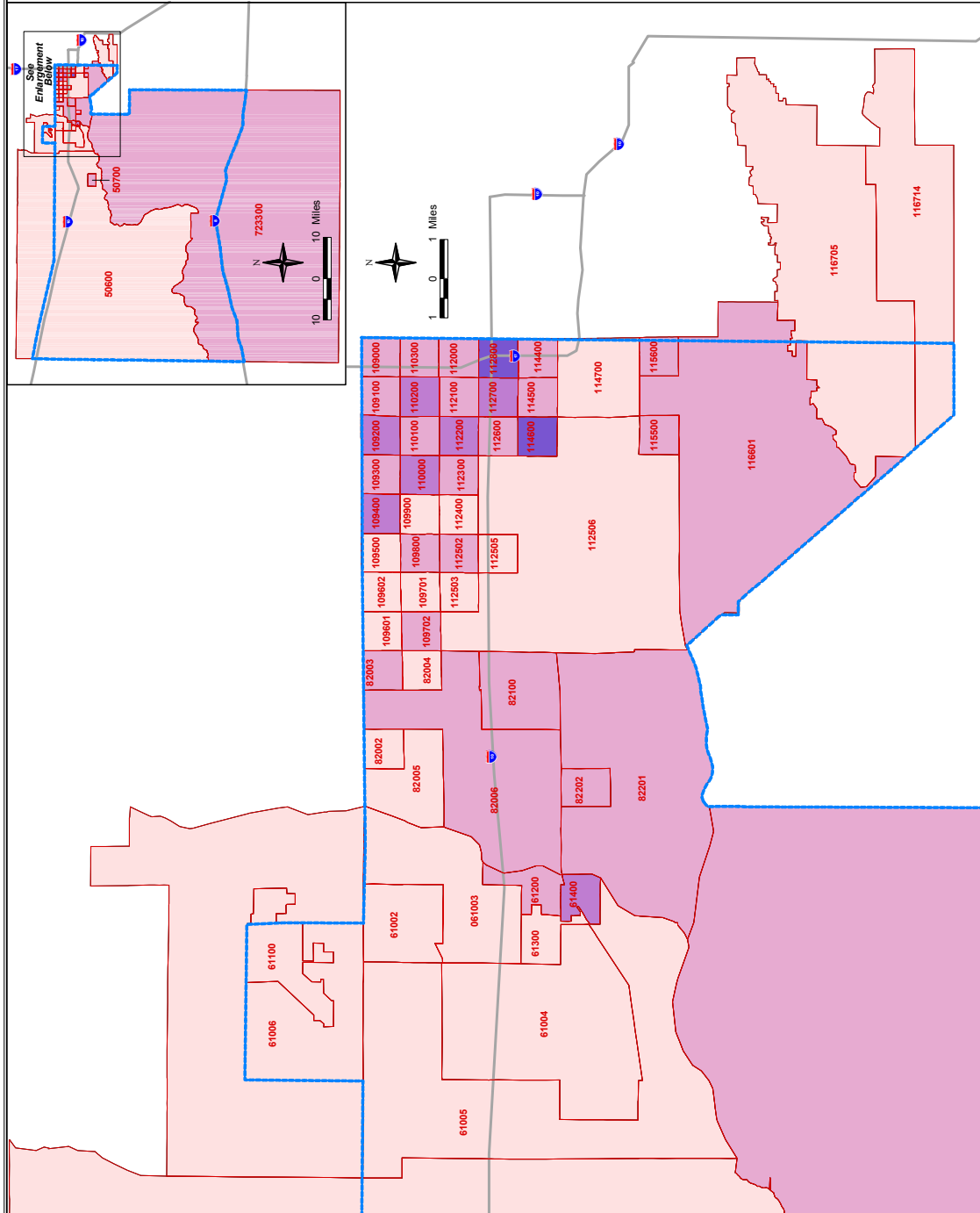


**Southwest Study
Area Boundary**

1990 Census Tract Boundary

1990 Census Tract Number

Source: U.S. Census Bureau 1990 Census



2.15.4 Young Female Population

Typically females ranging from 15 to 24 years of age are also considered a transit dependent population group. As shown in Table 2-12, the young female population in the study area includes a total of 31,020 persons, which is 8 percent of the study area population. Figure 2-15 displays the percentage of young female population (15-24) by census tract. As shown the young female population is primarily concentrated in census tracts located in the City of Phoenix.

Table 2-12
Young Female Population, 15-24 years of age, 2000

	Females 15-24	Total Population	Percent
Study Area	31,020	396,180	8
Maricopa County	208,700	3,072,149	7

Source: U.S. Census Bureau, 2000

2.16 Conclusion

Population and employment growth are indicative of the need for transportation improvements to accommodate this growth and related increases in travel demand. Based on policies identified in the communities' general plans and socioeconomic forecasts, population and employment growth is expected in the southwest planning area, resulting in increased demands on the region's transportation facilities. The socioeconomic forecasts and scenarios developed for the study area will serve as needed inputs into the travel demand computer model, and help determine anticipated transportation needs in Maricopa County. Based on the alternative scenarios, population and employment is expected to equal approximately 1.3 million persons and 800,000 employees as reflected in Scenario 6.8.

Environmental justice and Title IV named population groups identified in this element include a significant minority population within the study area as well as concentrations of elderly and low-income populations and female headed households. In accordance with federal requirements these population groups should be considered in the evaluation of any transportation improvement options.

